

Fig. 1

$$O_2N$$
 O_2N
 O_2N

3-amino-5-carboxy

$$O_2N$$
 Me
 O_2N
 $O_$

4-amino-2-methyl 2-amino-4-methyl 4-fluoro-2-carboxy 2-fluoro-4-carboxy

$$\begin{array}{c} & O_2N \\ \hline \\ & R_1O \end{array}$$

Fig. 2

Fig. 3

Me
$$O_2N$$
 O_2N O_2N

Fig. 4

Fig. 5

Fig. 6

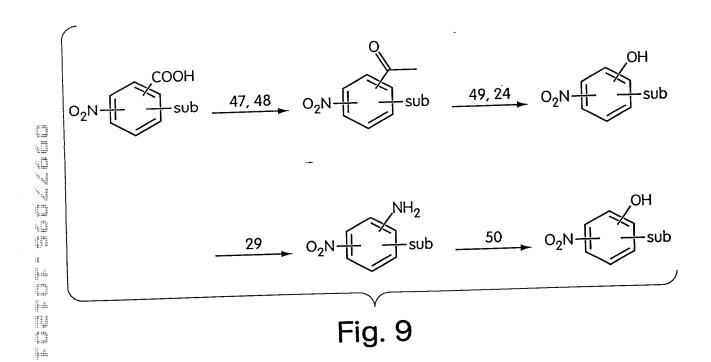
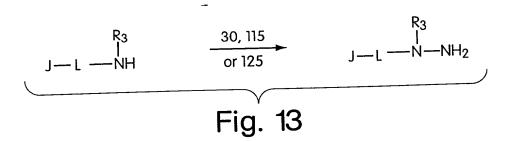


Fig. 10

Fig. 12



Sub
$$29 \text{ or}$$
 $74,75$ O_2N 30 30 31 O_2N SO_2CI SO_2CI SO_2CI SO_2CI SO_2CI SO_2CI SO_2CI

Fig. 14

Fig. 15

Fig. 17

$$J-L-COOH$$

$$J-L-COCH_{2}CI$$

$$J-L-COCH_{2}CI$$

$$-99$$

$$J-L-COCH_{2}CI$$

$$-97$$

$$J-L-R$$

$$-125$$

$$J-L-R$$

$$-125$$

$$J-L-R$$

Fig. 19

Fig. 20

Fig. 21

Fig. 22

Fig. 23

Fig. 24

Fig. 25

J-L

NHNHR

$$32$$

J-L

NHNHR

 1

NHNHR

 1
 1

NHNHR

 1

NHR

 1

N

Fig. 26

Fig. 27

Fig. 28

$$J-L - NH_{2} \xrightarrow{88} J-L - NCO$$

$$J-L - COOH \xrightarrow{29} J-L - NCO$$

$$J-L - NCO \xrightarrow{116} J-L \xrightarrow{N-R} R$$

$$J-L - NH_{2} \xrightarrow{117} J-L \xrightarrow{N-R} R$$

$$J-L \xrightarrow{N-R} R$$

Fig. 29

Fig. 30

Fig. 31

Fig. 32A

Fig. 32B

Fig. 32C

Fig. 32D

Fig. 32E

Fig. 32F

Fig. 32G

Fig. 32H

Fig. 321

Fig. 32J

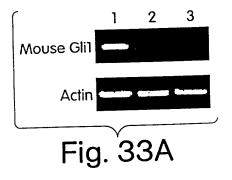
Fig. 32K

Fig. 32L

Fig. 32M

Fig. 32N

Fig. 320



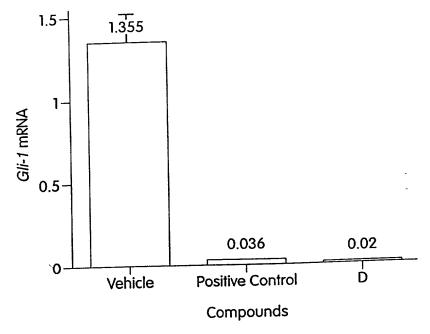


Fig. 33B

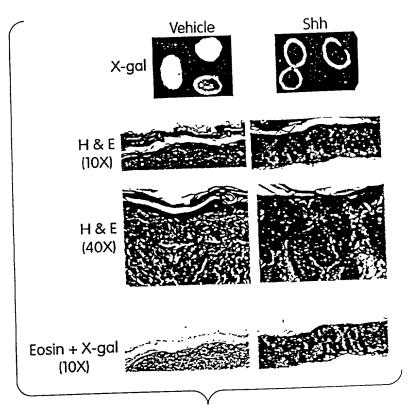


Fig. 34A



Shh treated E17.5 mouse skin punch

Fig. 34B

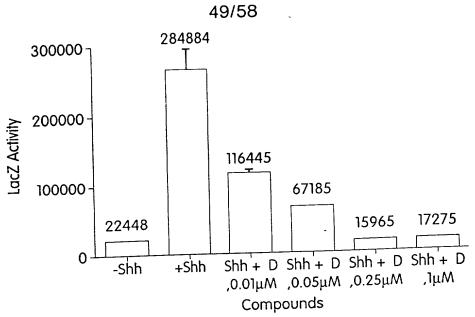
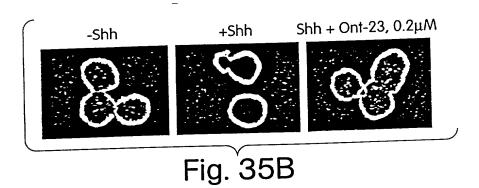


Fig. 35A



-Shh
-Shh
D
Light eosin + X-gal
Light eosin + X-gal

Fig. 35C

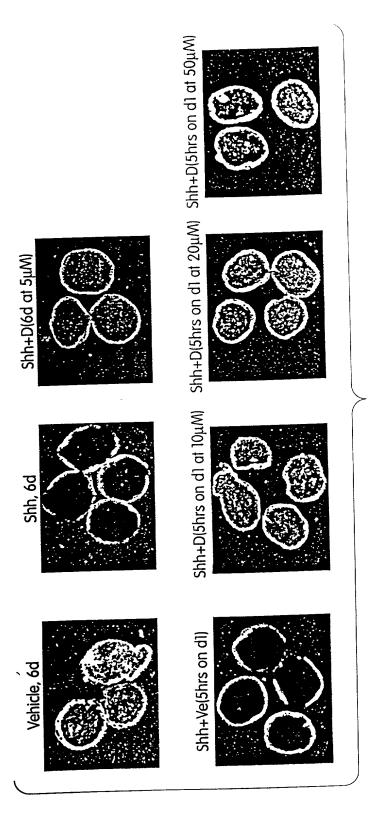
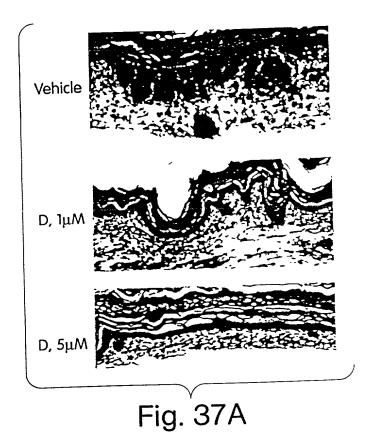
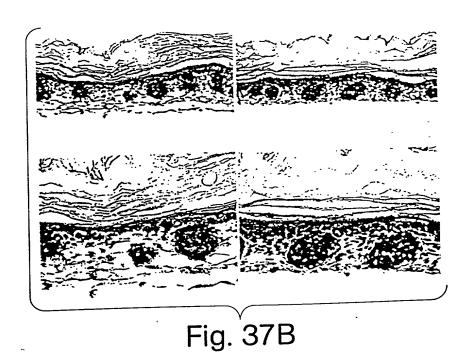
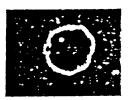


Fig. 36





Shh, 10d; Shreid on d7 and d9 with DMSO



Shh, 10d; Shreid on d7 and d9 with D 1 at 1 μ M



Shh, 10d; Shreid on d7 and d9 with D at $5\mu M$



Fig. 38A

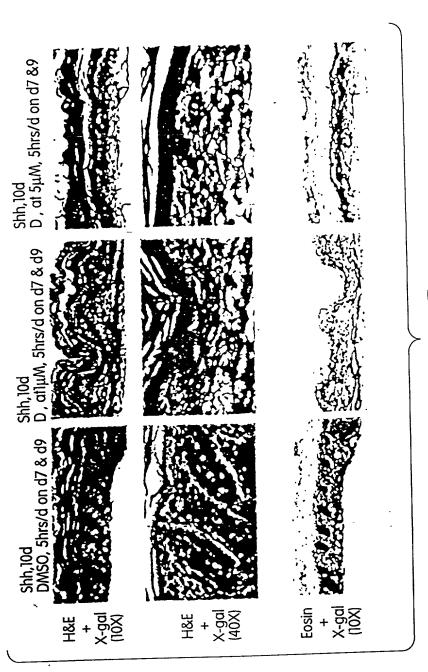


Fig. 38B

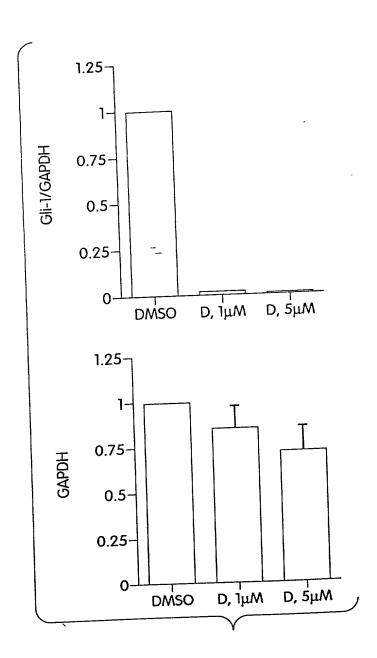


Fig. 38C

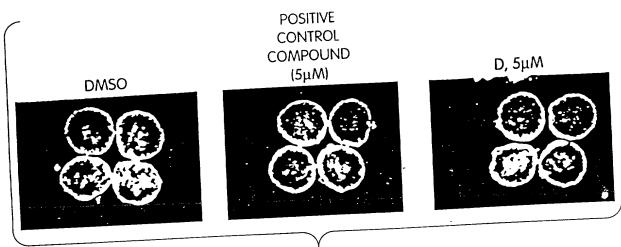


Fig. 39A

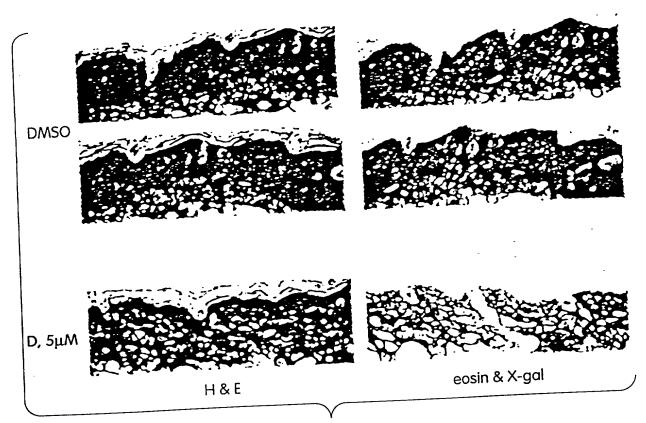


Fig. 39B

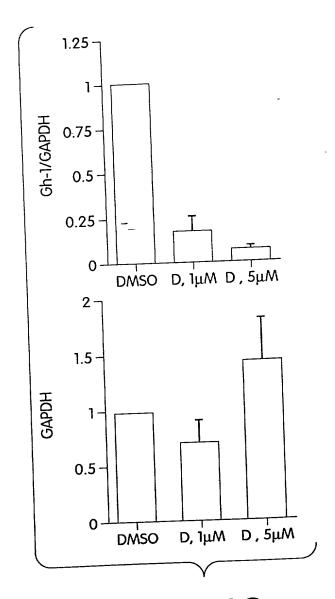


Fig. 39C

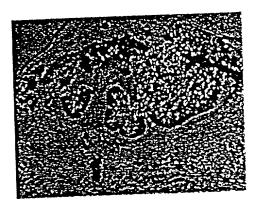


Fig. 40A

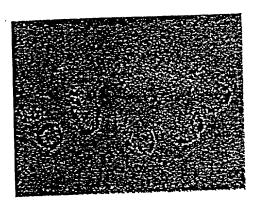


Fig. 40B

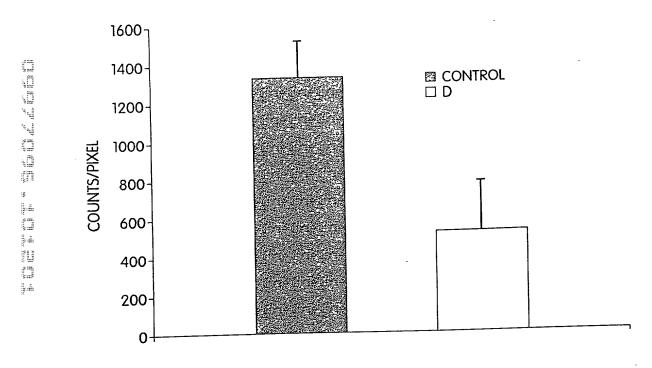


Fig. 41